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ANALYSIS OF CONTRACTS AWARDED CALENDAR YEAR 1977



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PREPARED BY THE
STATE OF MONTANA
DEPARTMENT OF HIGHWAYS
PLANNING AND RESEARCH BUREAU
IN COOPERATION WITH THE
U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION



CONTRACT ANALYSES
CALENDAR YEAR 1977
FOREWARD

THE ATTACHED TABULATIONS HAVE BEEN PREPARED FROM THE DETAILED ESTIMATE AND CONTRACT AWARD SHEET FOR ALL CONTRACTS AWARDED DURING THE CALENDAR YEAR. A BRIEF EXPLANATION OF EACH OF THE FOLLOWING TABLES IS PROVIDED TO HELP IN THE INTERPRETATION OF THE FIGURES AND TO LESSEN THE POSSIBILITY OF ERRONEOUS CONSLUSIONS.

TABLE 1 - SUMMARY OF NEW AND RECONSTRUCTED ROADWAY ONLY, BY COUNTY AND FINANCIAL DISTRICT.

THIS TABLE IS INTENDED TO INFORM THE USER OF HOW MANY ACTUAL MILES OF ROADWAY WERE LET TO CONTRACT AND THE COSTS INVOLVED. IT INCLUDES ALL ITEMS PERTINENT TO THE SAME SECTION OF ROADWAY EXCEPT STRUCTURES.

TABLE 1A - SUMMARY OF TOTAL AMOUNTS AWARDED BY COUNTY AND FINANCIAL DISTRICT.


THIS TABLE IS A TOTAL OF ALL MILES AND COSTS INVOLVED REGARDLESS OF THE TYPE OF PROJECT. BESIDES ROADWAY COSTS, IT INCLUDES SIGNING, LIGHTING, FENCING AND BRIDGE PROJECTS.

TABLE 2 - SUMMARY OF ROADWAY MILEAGE AWARDED BY SYSTEMS.

THE TABLE INVOLVES THE SAME TYPE OF CONSTRUCTION AS TABLE 1. TABLE 2, HOWEVER, PROVIDES A COST PER MILE FIGURE FOR THE DIFFERENT SYSTEMS AND ALSO PROVIDES A SIMPLE ANALYSIS OF BENEFITS BY INCLUSION OF THE "COST PER ANNUAL VEHICLE MILE".

TABLE 3-3B-3C-3D - SUMMARY OF TYPE OF CONSTRUCTION.

A SEPARATE TABLE HAS BEEN PREPARED FOR EACH FEDERAL AID SYSTEM WITH ALL PROJECTS CLASSIFIED INTO 17 DIFFERENT CATEGORIES. THE PURPOSE OF THIS TABLE IS TO GIVE A GENERAL INDICATION OF WHAT TYPE OF CONSTRUCTION IS RESPONSIBLE FOR THE MAJOR SHARE OF MONIES SPENT. FOR EXAMPLE, NOTE THE BULK OF INTERSTATE MONIES IS SPENT FOR NEW CONSTRUCTION, WHEREAS, THE GREATER SHARE FOR THE PRIMARY AND SECONDARY IS SPENT FOR RECONSTRUCTION.



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TABLE 4-4A-4B-4C-4D - SUMMARY BY SURFACE TYPE BY SYSTEMS.

THESE TABLES INDICATE THE AVERAGE COST PER MILE OF VARIOUS ITEMS INCLUDED IN A COMPLETED ROADWAY BY TYPE OF SURFACING. CAUTION SHOULD BE EXERCISED IN USING THE AVERAGE COST PER MILE DATA DUE TO THE SMALL SAMPLE INVOLVED FOR SOME COST ITEMS. ANY COST FIGURE APPEARING UNDER STAGE CONSTRUCTION BRIDGES IN INFORMATIONAL ONLY. BRIDGE STAGE CONSTRUCTION COSTS ARE NOT REFLECTED IN THE COST PER MILE OR COST PER SQUARE FOOT OF STRUCTURES IN THIS TABLE.

TABLE 5 - SUMMARY OF ROADWAY MILEAGE AWARDED BY NUMBER OF TRAFFIC LANES.

THIS TABLE DEALS WITH THE SAME MILES AND COSTS INVOLVED IN TABLES 1 AND 2, EXCEPT OFF SYSTEM PROJECTS ARE NOT INCLUDED.

TABLE 6-6A-6B-6C-6D - SUMMARY OF STRUCTURES BY TYPE.

THESE TABLES SUMMARIZE THE NUMBER OF STRUCTURES LET BY TYPE AND ALSO PROVIDE A COST PER SQUARE FOOT, BY TYPE OF STRUCTURE.

TABLE 7 - SUMMARY OF CONSTRUCTED AND NON-CONTRACTED COSTS BY SYSTEM.

THE NON-CONTRACTED FIGURE REFLECTS CONSTRUCTION ENGINEERING COSTS ONLY. CONTINGENCY ITEMS SUCH AS FLAGGING, ROADWAY MATERIALS, TRAINING, ETC., SUPPLIED BY THE STATE, ARE REFLECTED IN THE CONTRACTED COST.

STATE OF MONTANA DEPARTMENT OF HIGHWAYS
PLANNING AND RESEARCH BUREAU

SUMMARY OF ROADWAY MILEAGE AWARDED
BY COUNTY AND FINANCIAL DISTRICT

DURING CALENDAR YEAR

THIS TABLE SUMMARIZES ONLY NEW OR RECONSTRUCTED ROADWAY. REFER TO TABLE 1A FOR THE TOTAL AMOUNTS OF CONTRACTS AWARDED

JUNE 15, 1978

TABLE I

[illegible]

STATE OF MONTANA DEPARTMENT OF HIGHWAYS
PLANNING AND RESEARCH BUREAU

SUMMARY OF ROADWAY MILEAGE AWARDED
BY COUNTY AND FINANCIAL DISTRICT
DURING CALENDAR YEAR 1977
THIS TABLE SUMMARIZES ONLY NEW OR RECONSTRUCTED ROADWAY. REFER TO TABLE 1A FOR THE TOTAL AMOUNTS OF CONTRACTS AWARDED
JUNE 15, 1978

TABLE 1

COUNTY AND FINANCIAL DISTRICT	INTERSTATE SYSTEM MILES	INTERSTATE SYSTEM COST	PRIMARY SYSTEM MILES	PRIMARY SYSTEM COST	URBAN EXTENSION MILES	URBAN EXTENSION COST	SECONDARY SYSTEM MILES	SECONDARY SYSTEM COST	F.A. - URBAN MILES	F.A. - URBAN COST	OTHER SYSTEMS MILES	OTHER SYSTEMS COST	ALL SYSTEMS MILES	ALL SYSTEMS COST
TOTAL	19,078	10,975,519	17,807	7,751,248	3,081	3,402,304	45,508	6,160,539	3,657	1,478,024			88,931	29,367,654

STATE OF MONTANA DEPARTMENT OF HIGHWAYS
 PLANNING AND RESEARCH BUREAU
 SUMMARY OF TOTAL AMOUNTS AWARDED
 BY COUNTY AND FINANCIAL DISTRICT
 DURING CALENDAR YEAR 1977
 TABLE 1A
 JUNE 15, 1978

COUNTY AND FINANCIAL DISTRICT	INTERSTATE SYSTEM MILES COST	PRIMARY SYSTEM MILES COST	URBAN EXTENSION MILES COST	SECONDARY SYSTEM MILES COST	F.A. - URBAN MILES COST	OTHER SYSTEMS MILES COST	ALL SYSTEMS MILES COST
FLATHEAD LAKE FD #01	---	16,022 16,025	.900 1,018,013	---	101,952 101,952	---	.900 1,135,965
GLACIER MILL FD #02	---	128,317 128,317	1,000 1,142,262	6,622 6,622	---	---	1,957,225 2,212,979
DANIELS PHILLIPS ROOSEVELT VALLEY FD #03	---	70,850 671,141 2,920,890 87,819	---	4,451 4,451 .060 396,036	---	---	4,451 746,108 671,141 3,316,926 87,819 4,821,994
DAWSON PRAIRIE RICHMOND FD #04	4,704 1,419,796 1,006,348 4,704	4,901 1,492,452 1,495,455	---	---	---	---	4,704 1,419,796 1,006,348 4,801 1,452,452 9,605 3,921,959
FERGUS GARFIELD PETROLEUM FD #05	---	2,400 41,424 57,225 57,935	.319 5,874	---	---	---	2,719 47,298 5,225 239,189
CASCADE CHOUTEAU TETON FD #06	14,377 3,331,663 323,590 14,377	.067 148,488 523,710 447,632 1,119,837	2,101,672 13,745 1,338,431 148,256	14,423 1,486,687	---	---	28,122 6,920,254 6,78 671,966 171,222 8,363,449
BROADWATER LEWIS & CLARK FD #07	---	9,672 6,387 4,362,423 13,979	.681 1,043,354	---	---	---	9,672 746,311 5,883,484 6,629,805
MINERAL MISSOULA POWELL FD #08	12,349 2,955 5,580 20,884	10,747,029 2,066,771 9,106,673 21,922,473	-161 4,593 1,816,181 2,518,182	5,970 1,002,063 1,002,063	---	---	12,349 10,747,029 3,116 3,778,805 10,173 10,922,854 25,638 25,448,688
DEER LODGE MAIDSON SILVER BOW FD #09	10,842 2,191,905	2,191,905	14,539 200 845,752	.104 557,137	2,800 1,000,307	---	13,642 3,192,212 571,676 845,752 4,609,640

STATE OF MONTANA DEPARTMENT OF HIGHWAYS
 PLANNING AND RESEARCH BUREAU
 SUMMARY OF TOTAL ROUTES MAINTAINED
 BY COUNTY AND FINANCIAL DISTRICT
 DURING CALENDAR YEAR 1977

TABLE 1A

JUNE 15, 1978

COUNTY AND FINANCIAL DISTRICT	INTERSTATE SYSTEM MILES	COST	PRIMARY SYSTEM MILES	COST	URBAN EXTENSION MILES	COST	SECONDARY SYSTEM MILES	COST	F-A. URBAN MILES	COST	OTHER SYSTEMS MILES	COST	ALL SYSTEMS MILES	COST
GALLATIN SWEET GRASS FD #10	-----	481,650	3,000	652,048	-----	37,236	-----	-----	-----	-----	-----	-----	3,000	1,588,920
BIG HORN CARBON	-----	-----	-----	17,368	-----	-----	3,012	845,091	-----	-----	-----	-----	3,012	845,091
MUSSELSHELL	4,567	1,482,881	-----	-----	-----	-----	1,123,390	1,123,390	-----	-----	-----	-----	1,123,390	1,123,390
TREASURE	1,332	1,533,068	-----	44,866	-----	-----	25,123	25,123	-----	-----	-----	-----	18,167	3,183,623
YELLOWSTONE FD #11	5,899	3,015,969	-----	62,334	-----	-----	13,600	1,702,242	-----	-----	-----	-----	1,332	1,578,036
CARTER	-----	-----	-----	-----	-----	-----	16,612	3,695,946	-----	-----	-----	-----	22,511	6,179,629
FALLON	-----	-----	-----	617,681	-----	-----	3,200	773,247	-----	-----	-----	-----	3,200	773,247
ROSEBUD FD #12	-----	-----	-----	617,681	-----	-----	3,200	1,493,780	-----	-----	-----	-----	3,200	617,681
TOTAL	56,706	33,693,374	38,712	16,006,422	3,400	6,200,133	45,472	10,390,561	3,657	1,579,976	-----	-----	147,947	61,870,466

STATE OF MONTANA DEPARTMENT OF HIGHWAYS
PLANNING AND RESEARCH BUREAU

SUMMARY OF ROADWAY MILEAGE AWARDED BY SYSTEMS
DURING CALENDAR YEAR 1977

THIS TABLE SUMMARIZES ONLY NEW OR RECONSTRUCTED ROADWAYS
TABLE 2

JUNE 15, 1978

SYSTEM	MILEAGE	TOTAL COST	COST PER MILE	ANNUAL VEHICLE MILES	COST PER ANNUAL VEHICLE MILE
RURAL					
INTERSTATE RURAL	19.078	10,575,519	554,330		00.000
PRIMARY RURAL	17.807	7,751,248	435,292		00.000
SECONDARY RURAL	45.308	6,160,539	135,970		00.000
OTHER					00.000
SUB TOTAL RURAL	82.193	24,487,306	297,924		00.000
URBAN					
INTERSTATE URBAN					00.000
URBAN EXTENSION	3.081	3,402,304	1,104,285		00.000
FA URBAN	3.657	1,478,024	404,162		00.000
OTHER					00.000
SUB TOTAL URBAN	6.738	4,880,328	724,299		00.000
GRAND TOTAL	88.931	29,367,634	330,229		00.000

STATE OF MONTANA DEPARTMENT OF HIGHWAYS
PLANNING AND RESEARCH BUREAU

SUMMARY OF TYPE OF CONSTRUCTION
DURING CALENDAR YEAR 1977
BY SYSTEM
TABLE 3

JUNE 23, 1978

TYPE OF CONSTRUCTION	INTERSTATE	
	MILES	COST
RURAL		
NEW CONSTRUCTION-----	8.683	6,000,420
RECONSTRUCTION-----		
ADD TWO LANES-----	10.395	4,575,099
MAJOR STRUCTURES-----		7,918,313
RESURFACE-----		
STAGE CONSTRUCTION, ROADWAY-----	37.628	11,896,889
TRAFFIC CONTROL-----		
REST AREA-----		323,590
WIDENING ROADWAY-----		
STAGE CONSTRUCTION, MAJOR STRUCTURES-----		2,280,748
SAFETY-----		
LANDSCAPING-----		
FENCING-----		7,923
PMS OVERLAY AND SEAL & COVER-----		
WEIGH STN & SCENIC OVERLOOK-----		
OTHER-----		690,392
BRIDGE REPAIR-----		
TOTAL		33,693,374

STATE OF MONTANA DEPARTMENT OF HIGHWAYS
PLANNING AND RESEARCH BUREAU

SUMMARY OF TYPE OF CONSTRUCTION
DURING CALENDAR YEAR 1977
BY SYSTEM
TABLE 3

JUNE 23, 1978

TYPE OF CONSTRUCTION	-----INTERSTATE-----	
	MILES	COST
URBAN		
NEW CONSTRUCTION-----		
RECONSTRUCTION-----		
ADD TWO LANES-----		
MAJOR STRUCTURES-----		
RESURFACE-----		
STAGE CONSTRUCTION, ROADWAY-----		
TRAFFIC CONTROL-----		
REST AREA-----		
WIDENING ROADWAY-----		
STAGE CONSTRUCTION, MAJOR STRUCTURES-----		
SAFETY-----		
LANDSCAPING-----		
FENCING-----		
PMS OVERLAY AND SEAL & COVER-----		
WEIGH STN & SCENIC OVERLOOK-----		
OTHER-----		
BRIDGE REPAIR-----		
TOTAL		

STATE OF MONTANA DEPARTMENT OF HIGHWAYS
PLANNING AND RESEARCH BUREAU

SUMMARY OF TYPE OF CONSTRUCTION
DURING CALENDAR YEAR 1977
BY SYSTEM
TABLE 3

JUNE 23, 1978

TYPE OF CONSTRUCTION	<u>INTERSTATE</u>	
	MILES	COST
ALL CONSTRUCTION		
NEW CONSTRUCTION-----	8.683	6,000,420
RECONSTRUCTION-----		
ADD TWO LANES-----	10.395	4,575,099
MAJOR STRUCTURES-----		7,918,313
RESURFACE-----		
STAGE CONSTRUCTION, ROADWAY-----	37.628	11,896,889
TRAFFIC CONTROL-----		
REST AREA-----		323,590
WIDENING ROADWAY-----		
STAGE CONSTRUCTION, MAJOR STRUCTURES-----		2,280,748
SAFETY-----		
LANDSCAPING-----		
FENCING-----		7,923
PMS OVERLAY AND SEAL & COVER-----		
WEIGH STN & SCENIC OVERLOOK-----		
OTHER-----		690,392
BRIDGE REPAIR-----		
TOTAL		33,693,374

STATE OF MONTANA DEPARTMENT OF HIGHWAYS
PLANNING AND RESEARCH BUREAU

SUMMARY OF TYPE OF CONSTRUCTION
DURING CALENDAR YEAR 1977
BY SYSTEM
TABLE 3A

JUNE 23, 1978

TYPE OF CONSTRUCTION	<u>PRIMARY RURAL</u>	
	MILES	COST
RURAL		
NEW CONSTRUCTION-----	7.296	4,558,924
RECONSTRUCTION-----	10.511	3,192,324
ADD TWO LANES-----		
MAJOR STRUCTURES-----		1,241,257
RESURFACE-----	20.905	3,674,091
STAGE CONSTRUCTION, ROADWAY-----		
TRAFFIC CONTROL-----		76,873
REST AREA-----		
WIDENING ROADWAY-----		
STAGE CONSTRUCTION, MAJOR STRUCTURES-----		
SAFETY-----		339,206
LANDSCAPING-----		
FENCING-----		
PMS OVERLAY AND SEAL & COVER-----		2,420,277
WEIGH STN & SCENIC OVERLOOK-----		70,850
OTHER-----		432,620
BRIDGE REPAIR-----		
TOTAL		16,006,422

STATE OF MONTANA DEPARTMENT OF HIGHWAYS
PLANNING AND RESEARCH BUREAU

SUMMARY OF TYPE OF CONSTRUCTION
DURING CALENDAR YEAR 1977
BY SYSTEM
TABLE 3B

JUNE 23, 1978

TYPE OF CONSTRUCTION	<u>URBAN EXTENSION</u>	
	MILES	COST
URBAN		
NEW CONSTRUCTION-----	.681	1,010,681
RECONSTRUCTION-----	2.400	2,391,623
ADD TWO LANES-----		
MAJOR STRUCTURES-----		2,009,033
RESURFACE-----	.319	5,874
STAGE CONSTRUCTION, ROADWAY-----		
TRAFFIC CONTROL-----		510,293
REST AREA-----		
WIDENING ROADWAY-----		
STAGE CONSTRUCTION, MAJOR STRUCTURES-----		
SAFETY-----		272,629
LANDSCAPING-----		
FENCING-----		
PMS OVERLAY AND SEAL & COVER-----		
WEIGH STN & SCENIC OVERLOOK-----		
OTHER-----		
BRIDGE REPAIR-----		
TOTAL		6,200,133

STATE OF MONTANA DEPARTMENT OF HIGHWAYS
PLANNING AND RESEARCH BUREAU

SUMMARY OF TYPE OF CONSTRUCTION
DURING CALENDAR YEAR 1977
BY SYSTEM
TABLE 3C

JUNE 23, 1978

TYPE OF CONSTRUCTION	<u>SECONDARY RURAL</u>	
	MILES	COST
RURAL		
NEW CONSTRUCTION-----	27.112	4,459,702
RECONSTRUCTION-----	18.196	1,700,837
ADD TWO LANES-----		
MAJOR STRUCTURES-----		1,438,045
RESURFACE-----	.060	396,036
STAGE CONSTRUCTION, ROADWAY-----	.104	150,800
TRAFFIC CONTROL-----		
REST AREA-----		
WIDENING ROADWAY-----		
STAGE CONSTRUCTION, MAJOR STRUCTURES-----		34,351
SAFETY-----		47,973
LANDSCAPING-----		
FENCING-----		
PMS OVERLAY AND SEAL & COVER-----		1,776,557
WEIGH STN & SCENIC OVERLOOK-----		
OTHER-----		386,260
BRIDGE REPAIR-----		
TOTAL		10,390,561

STATE OF MONTANA DEPARTMENT OF HIGHWAYS
PLANNING AND RESEARCH BUREAU

SUMMARY OF TYPE OF CONSTRUCTION
DURING CALENDAR YEAR 1977
BY SYSTEM
TABLE 3D

JUNE 23, 1978

TYPE OF CONSTRUCTION	F.A. URBAN	
	MILES	COST
URBAN		
NEW CONSTRUCTION-----		
RECONSTRUCTION-----	3.657	1,478,024
ADD TWO LANES-----		
MAJOR STRUCTURES-----		
RESURFACE-----		
STAGE CONSTRUCTION, ROADWAY-----		
TRAFFIC CONTROL-----		101,952
REST AREA-----		
WIDENING ROADWAY-----		
STAGE CONSTRUCTION, MAJOR STRUCTURES-----		
SAFETY-----		
LANDSCAPING-----		
FENCING-----		
PMS OVERLAY AND SEAL & COVER-----		
WEIGH STN & SCENIC OVERLOOK-----		
OTHER-----		
BRIDGE REPAIR-----		
TOTAL		1,579,976

STATE OF MONTANA DEPARTMENT OF HIGHWAYS
PLANNING AND RESEARCH BUREAU

SUMMARY BY SURFACE TYPE
DURING CALENDAR YEAR 1977
INTERSTATE SYSTEM

TABLE 4

JUNE 23, 1978

COST ITEM		STAGE CONSTR. {GRAVEL}	SURFACE TYPE BITUM. MIX	CONCRETE	MISC. ITEMS
GRADING	MILES	19.557	26.649	10.500	
	COST	2,798,354	4,757,866	46,824	10,926
	COST/MILE	143,087	178,538	4,459	
DRAINAGE	MILES	19.266	25.216	10.500	
	COST	419,331	598,029	110,428	
	COST/MILE	21,765	23,716	10,516	
FOUNDATION	MILES	16.191	26.649	10.500	
	COST	250,494	2,309,510	11,406	34,397
	COST/MILE	15,471	86,664	1,086	
SURFACING	MILES	16.023	26.649	10.500	
	COST	198,584	2,517,452	5,305,589	19,444
	COST/MILE	12,393	94,467	505,294	
RDSIDE DEVEL.	MILES				
	COST				334,606
	COST/MILE				
EROSION CTL.	MILES	19.557	26.649	10.500	
	COST	318,163	450,536	155,071	7,066
	COST/MILE	16,268	16,906	14,768	
TRAFFIC CTL.	MILES	19.557	26.649	10.500	
	COST	141,350	995,085	314,775	45,383
	COST/MILE	7,227	37,340	29,978	
FENCING	MILES	19.434	26.649	10.500	
	COST	159,822	212,617	30,540	14,088
	COST/MILE	8,223	7,978	2,908	
MISC.	MILES	19.557	26.649	10.500	
	COST	103,400	568,925	277,800	12,100
	COST/MILE	5,287	21,348	26,457	
BRIDGES	SQ. FEET				244,062
	COST	2,245,100			7,918,313
	COST/SQ. FOOT				32.443
ALL ITEMS	MILES	19.557	26.649	10.500	
	COST	4,389,498	12,410,020	6,252,433	8,396,323
	COST/MILE	224,446	465,684	595,469	

STATE OF MONTANA DEPARTMENT OF HIGHWAYS
PLANNING AND RESEARCH BUREAU

SUMMARY BY SURFACE TYPE
DURING CALENDAR YEAR 1977
PRIMARY SYSTEM

TABLE 4A

JUNE 23, 1978

COST ITEM		SURFACE TYPE		MISC. ITEMS
		GRAVEL	BITUM. MIX	
GRADING	MILES		34.634	3.330
	COST		2,053,907	740,098
	COST/MILE		59,303	222,251
DRAINAGE	MILES		32.821	3.330
	COST		757,962	159,877
	COST/MILE		23,093	48,011
FOUNDATION	MILES		32.982	3.330
	COST		1,034,283	339,546
	COST/MILE		31,359	101,965
SURFACING	MILES		35.382	3.330
	COST		5,597,631	1,060,163
	COST/MILE		158,205	318,367
RDSIDE DEVEL.	MILES		5.672	
	COST		4,100	
	COST/MILE		722	
EROSION CTL.	MILES		32.982	3.330
	COST		383,700	43,528
	COST/MILE		11,633	13,071
TRAFFIC CTL.	MILES		35.382	3.330
	COST		833,215	127,863
	COST/MILE		23,549	38,397
FENCING	MILES		29.027	3.330
	COST		166,191	64,740
	COST/MILE		5,725	19,441
MISC.	MILES		35.382	3.330
	COST		633,750	64,400
	COST/MILE		17,911	19,339
BRIDGES	SQ. FEET			41,388
	COST			1,241,257
	COST/SQ. FOOT			29.990
ALL ITEMS	MILES		35.382	3.330
	COST		11,464,739	2,600,215
	COST/MILE		324,027	780,845



STATE OF MONTANA DEPARTMENT OF HIGHWAYS
PLANNING AND RESEARCH BUREAU

SUMMARY BY SURFACE TYPE
DURING CALENDAR YEAR 1977
URBAN EXTENSION

JUNE 23, 1978

TABLE 4B

COST ITEM		SURFACE TYPE		MISC. ITEMS
		GRAVEL	BITUM. MIX	
GRADING	MILES		2.719	
	COST		361,429	5,182
	COST/MILE		132,927	
DRAINAGE	MILES		2.400	
	COST		716,423	6,250
	COST/MILE		298,509	
FOUNDATION	MILES		2.400	
	COST		434,882	4,598
	COST/MILE		181,200	
SURFACING	MILES		2.719	
	COST		419,196	5,953
	COST/MILE		154,172	
RDSIDE DEVEL.	MILES		2.400	
	COST		287,676	3,400
	COST/MILE		119,865	
EROSION CTL.	MILES		1.500	
	COST		34,888	1,852
	COST/MILE		23,258	
TRAFFIC CTL.	MILES		2.719	
	COST		318,259	414,633
	COST/MILE		117,050	
FENCING	MILES			
	COST			.681
	COST/MILE			12,068
MISC.	MILES			
	COST			17,720
	COST/MILE			
BRIDGES	MILES		2.719	
	COST		145,193	20,605
	COST/MILE		53,399	
ALL ITEMS	SQ. FEET			
	COST			44,528
	COST/SQ. FOOT			2,009,033
ALL ITEMS	MILES		2.719	
	COST		2,717,946	2,471,506
	COST/MILE		999,612	

STATE OF MONTANA DEPARTMENT OF HIGHWAYS
PLANNING AND RESEARCH BUREAU

SUMMARY BY SURFACE TYPE
DURING CALENDAR YEAR 1977
SECONDARY SYSTEM

TABLE 4C

JUNE 23, 1978

COST ITEM		GRAVEL	SURFACE TYPE BITUM. MIX	CONCRETE	MISC. ITEMS
GRADING	MILES		45.472		
	COST	112,580	1,375,155		49,736
	COST/MILE		30,241		
DRAINAGE	MILES		45.412		
	COST	23,382	515,984		14,590
	COST/MILE		11,362		
FOUNDATION	MILES		42.272		
	COST	3,431	1,105,211		16,872
	COST/MILE		26,145		
SURFACING	MILES		45.472		
	COST		3,942,940		1,680
	COST/MILE		86,711		
RDSIDE DEVEL.	MILES		3.012		
	COST		500		
	COST/MILE		166		
EROSION CTL.	MILES		45.472		
	COST	38,119	423,302		88,786
	COST/MILE		9,309		
TRAFFIC CTL.	MILES		45.472		
	COST	5,000	385,408		42,663
	COST/MILE		8,475		
FENCING	MILES		44.794		
	COST	19,464	168,971		
	COST/MILE		3,772		
MISC.	MILES		45.472		
	COST	3,030	566,461		14,900
	COST/MILE		12,457		
BRIDGES	SQ. FEET				32,921
	COST	34,351			1,438,045
	COST/SQ. FOOT				43.681
ALL ITEMS	MILES		45.472		
	COST	205,006	8,483,932		1,667,272
	COST/MILE		186,574		

STATE OF MONTANA DEPARTMENT OF HIGHWAYS
PLANNING AND RESEARCH BUREAU

SUMMARY BY SURFACE TYPE
DURING CALENDAR YEAR 1977
F.A. URBAN

TABLE 4D

JUNE 23, 1978

COST ITEM	SURFACE TYPE			MISC. ITEMS
	GRAVEL	BITUM. MIX	CONCRETE	
GRADING				
MILES		3.657		
COST		146,358		
COST/MILE		40,021		
DRAINAGE				
MILES		3.657		
COST		321,854		
COST/MILE		88,010		
FOUNDATION				
MILES		3.657		
COST		18,995		
COST/MILE		5,194		
SURFACING				
MILES		3.657		
COST		583,560		
COST/MILE		159,573		
ROSIDE DEVEL.				
MILES		3.657		
COST		207,432		
COST/MILE		56,721		
EROSION CTL.				
MILES		.857		
COST		8,849		
COST/MILE		10,325		
TRAFFIC CTL.				
MILES		3.657		
COST		126,661		93,367
COST/MILE		34,635		
FENCING				
MILES		.857		
COST		481		
COST/MILE		561		
MISC.				
MILES		3.657		
COST		63,834		8,585
COST/MILE		17,455		
BRIDGES				
SQ. FEET				
COST				
COST/SQ. FOOT				
ALL ITEMS				
MILES		3.657		
COST		1,478,024		101,952
COST/MILE		404,162		

STATE OF MONTANA DEPARTMENT OF HIGHWAYS
PLANNING AND RESEARCH BUREAU

SUMMARY OF ROADWAY MILEAGE AWARDED BY NUMBER OF TRAFFIC LANES
DURING CALENDAR YEAR 1977

TABLE 5

JUNE 23, 1978

NO. LANES	MILES	COST	COST/MILE
INTERSTATE SYSTEM			
2	10.395	4,575,099	440,124
4	8.683	6,000,420	691,053
TOTAL	19.078	10,575,519	554,330
PRIMARY SYSTEM			
2	14.477	5,151,033	355,808
4	3.330	2,600,215	780,845
TOTAL	17.807	7,751,248	435,292
URBAN EXTENSION			
2			
4	3.081	3,402,304	1,104,285
TOTAL	3.081	3,402,304	1,104,285
SECONDARY SYSTEM			
2	45.308	6,160,539	135,970
4			
TOTAL	45.308	6,160,539	135,970
F. A. URBAN			
2	3.657	1,478,024	404,162
4			
TOTAL	3.657	1,478,024	404,162
ALL SYSTEMS			
2	73.837	17,364,695	235,176
4	15.094	12,002,939	795,212
TOTAL	88.931	29,367,634	330,229

STATE OF MONTANA DEPARTMENT OF HIGHWAYS
PLANNING AND RESEARCH BUREAU
SUMMARY OF STRUCTURES BY TYPE
DURING CALENDAR YEAR 1977

TABLE 6

INTERSTATE SYSTEM

JUNE

23, 1978

BRIDGE TYPE	CODE	NO. OF STRUCTURES	SQ. FT. STRUCTURES	TOTAL COST	COST / SQ. FOOT
STEEL-CONC. GIRD	X041	1	10,528	556,398	52.849
	X041	1	97,027	1,006,348	10.371
	X071	1	23,982	942,779	39.311
	X371	1	89,626	1,238,752	13.821
	X571	1	49,219	1,712,208	34.787
CONC. PRESTR. GIRD.	X771	1	12,576	446,002	35.464
	X081	3	48,188	1,485,193	30.820
	X281	4	30,271	832,738	27.509
	X581	1	58,170	1,618,258	27.819
	X781	2	11,128	324,737	29.181
TOTALS: INCLUDES STAGE		16		10,163,413	
TOTALS: EXCLUDES STAGE		14	244,062	7,918,313	32.443
TOTAL BRIDGE STAGE		2	186,653	2,245,100	12.028

STATE OF MONTANA DEPARTMENT OF HIGHWAYS
 PLANNING AND RESEARCH BUREAU
 SUMMARY OF STRUCTURES BY TYPE
 DURING CALENDAR YEAR 1977

TABLE 6A

PRIMARY SYSTEM

JUNE

23, 1978

BRIDGE TYPE	CODE	NO. OF STRUCTURES	SQ. FT. STRUCTURES	TOTAL COST	COST / SQ. FOOT
CONC. PRESTR. GIRD.	X081	3	17,100	585,652	34.248
	X181	1	24,288	655,605	26.992
TOTALS: INCLUDES STAGE		4		1,241,257	
TOTALS: EXCLUDES STAGE		4	41,388	1,241,257	29.990
TOTAL BRIDGE STAGE					



STATE OF MONTANA DEPARTMENT OF HIGHWAYS
 PLANNING AND RESEARCH BUREAU
 SUMMARY OF STRUCTURES BY TYPE
 DURING CALENDAR YEAR 1977

TABLE 6B

URBAN EXTENSION

JUNE

23, 1978

BRIDGE TYPE	CODE	NO. OF STRUCTURES	SQ. FT. STRUCTURES	TOTAL COST	COST / SQ. FOOT
CONC. PRESR. GIRD.	X081	1	44,528	2,009,033	45.118
TOTALS: INCLUDES STAGE		1		2,009,033	
TOTALS: EXCLUDES STAGE		1	44,528	2,009,033	45.118
TOTAL BRIDGE STAGE					

STATE OF MONTANA DEPARTMENT OF HIGHWAYS
 PLANNING AND RESEARCH BUREAU
 SUMMARY OF STRUCTURES BY TYPE
 DURING CALENDAR YEAR 1977

TABLE 6C

SECONDARY SYSTEM

JUNE

23, 1978

BRIDGE TYPE	CODE	NO. OF STRUCTURES	SQ. FT. STRUCTURES	TOTAL COST	COST / SQ. FOOT
TIMB. GIRD.	X001	1	988	27,568	27.902
	X001 STAGE	1		34,351	
CONC. PRESTR. GIRD.	X081	4	25,569	1,222,221	47.800
	X181	1	6,364	188,256	29.581
TOTALS: INCLUDES STAGE		7		1,472,396	
TOTALS: EXCLUDES STAGE		6	32,921	1,438,045	43.681
TOTAL BRIDGE STAGE		1		34,351	

STATE OF MONTANA DEPARTMENT OF HIGHWAYS
PLANNING AND RESEARCH BUREAU
SUMMARY OF STRUCTURES BY TYPE
DURING CALENDAR YEAR 1977

TABLE 6E

ALL SYSTEMS

JUNE

23, 1978

BRIDGE TYPE	CODE	NO. OF STRUCTURES	SQ. FT. STRUCTURES	TOTAL COST	COST / SQ. FOOT
TIMB. GIRD.	X001	2	988	61,919	62.671
STEEL-CONC. GIRD	X041	2	107,555	1,562,746	14.529
COMP. S/C GIRD.	X071	1	23,982	942,779	39.311
	X371	1	89,626	1,238,752	13.821
	X571	1	49,219	1,712,208	34.787
	X771	1	12,576	446,002	35.464
CONC. PRESTR. GIRD.	X081	11	135,385	5,302,099	39.163
	X181	2	30,652	843,861	27.530
	X281	4	30,271	832,738	27.509
	X581	1	58,170	1,618,258	27.819
	X781	2	11,128	324,737	29.181
TOTALS: INCLUDES STAGE		28		14,886,099	
TOTALS: EXCLUDES STAGE		25	362,899	12,606,648	34.738
TOTAL BRIDGE STAGE		3	186,653	2,279,451	12.212

STATE OF MONTANA DEPARTMENT OF HIGHWAYS
PLANNING AND RESEARCH BUREAU

SUMMARY OF CONTRACTED AND
NON-CONTRACTED COSTS BY SYSTEM
DURING CALENDAR YEAR 1977

TABLE 7

JUNE 23, 1978

SYSTEM	CONTRACTED COST	NON CONTRACTED COST	TOTAL
INTERSTATE	\$ 33,693,374	\$ 4,994,215	\$ 38,687,589
PRIMARY	\$ 16,006,422	\$ 2,397,038	\$ 18,403,460
URBAN EXTENSION	\$ 6,200,133	\$ 929,055	\$ 7,129,188
SECONDARY	\$ 10,390,561	\$ 1,558,568	\$ 11,949,129
F.A. URBAN	\$ 1,579,976	\$ 236,994	\$ 1,816,970
OTHER			
TOTAL	\$ 67,870,466	\$ 10,115,870	\$ 77,986,336

